Volume 27 Contents

January

Editorial 1
Organization of a molecular biology workshop in Tunisia. A Ladram, T Foulon, S Cadel, M-C Chauviere, J-J Montagne, C Gouzy, M Amiche, H Boussetta, P Cohen 2
One century after Fischer: better tools for teaching the stereochemistry of carbohydrates. A J Ruiz-Chica, J L Urdiales, M A Medina, F Sánchez-Jiménez 7
A simple model to facilitate students' understanding of the mitochondrial respiratory chain. M Königsberg 9
Optimization of glycolysis: new discussions. T G Waddell, P Repovic, E Meléndez-Hevia, R Heinrich, F Montero 12

Features Section
Problem-based learning. C A Smith 14
Enzyme kinetics: partial and complete non-competitive inhibition. C G Whiteley 15
Computer-based learning. G R Parslow 19
Virtual_Glucose: using animated computer graphics to teach molecular structures in biochemistry. D Bouvier, M-H Baron, A-M Leseney 20
The *Glasgow Metabolism Suite*: undergraduate software for intermediary metabolism. D P Leader 27
"Multi-layer pop-up system", a presentation style with a built-in biochemistry dictionary for computer-aided learning. R Nagata 31
Biotechnology education. R O Jenkins 34
Announcements 34
MSc Biotechnology degree in South Africa. J P Dean Goldring 35

Experimental Section
A simple laboratory experiment to demonstrate the interaction of proteins bearing glycosylphosphatidylinositol anchors with liposomes. 37
D1S80 PCR with the $25 thermal cycler. D F Betsch, J Berard 45
An inexpensive agarose gel electrophoresis system. D F Betsch, J Berard 48
"Investigating lipoproteins" — a biochemistry practical in an organ systems setting. M P T Gillett 51
Humoral immune response to hepatitis B vaccination: a laboratory practical for medical and bioscience undergraduates. V T K Chow, S H Chan 55
Letters to the Editor 59
Announcements 59
Book Reviews 60
Monitors 67

April

Editorial 69
Announcements 70
Erratum 70
Increasing student involvement in lectures: (very) low tech innovations in a biochemistry lecture class. R S Feldberg 71
The electron transport game. K Cornely 74
Preparing physicians to utilize the emerging genetic toolbox: an approach for medical biochemistry. K L Redman 77
Estimating the energy content of metabolites. G Banfalvi 79
Is there really any evidence indicating that animals synthesize glutamate? M Katagiri, M Nakamura 83

Features Section
Problem-based learning. C A Smith 86

What students must know about the determination of enzyme kinetic parameters. F Ranaldi, P Vanni, E Giachetti 87
Computer-based learning. G R Parslow 92
Computerised data acquisition and analysis in the biochemistry teaching laboratory. S Brown, R Dykstra 93
Miscellaneous Bytes. G R Parslow, E J Wood 97
Biotechnology education. R O Jenkins 100
Biotechnology education and the training of engineer-technologists in the St. Petersburg State Chemical–Pharmaceutical Academy and the State University of Technology and Design. N P Yelinov, I I Shamolina, L Ya Tereszhenco 102
Artemisinin: present status and perspectives. V Dhingra, K V Rao, M L Narasu. 105

Experimental Section
RNA isolation from plant tissues: a practical experience for biological undergraduates. M G Claros, F M Cánovas 110
A simple laboratory experiment for teaching enzyme immobilization with urease and its application in blood urea estimation. A M Kayastha, N Das 114
Binding of proflavin to chymotrypsin: an experiment to determine protein–ligand interactions by direct nonlinear regression analysis of spectroscopic titration data. H S Hendrickson 118
Video Review 122
Book Reviews 123
Monitor 127

July

Editorial 129
Erratum 130
Biological methods: a novel course in undergraduate biology. M Kotiw, R P Learmonth, M W Sutherland 131
The enzyme's party: an analogy. D J Bauhs Jr 135
The use of mini-projects in preparing students for independent open-ended investigative labwork. J Lewis 137
Molecular Diagnostics — an upper division/graduate course. N L McQueen, S B Sharp 145
An optional laboratory in molecular techniques as an aid in the teaching of medical biochemistry. M Barton, M A Lieberman 150
Connecting links between the urea cycle and the TCA cycle: a tutorial exercise. U Anand, C V Anand 153

Features Section
Problem-based learning. C A Smith 155
Biochemical phenomena associated with the process of leaf senescence in plants: a student problem. S Ricquebourg, M Cesari, F Cadet 156
Computer-based learning. G R Parslow 159
Undergraduate laboratory work in biochemistry and new perspectives. H H Aydin, F K Girgin, B Ersoz, E Sozmen 160
CD-ROM review. G R Parslow 162
Biotechnology education. R O Jenkins 164
Announcements 165
DNA to PCR: computer-aided learning software for DNA sequencing and amplification techniques of molecular biology. R O Jenkins, N W Scott 166

Experimental Section
A simple and inexpensive dot-blotter for immunoblotting. M Uritani, A Hamada 169
Enzymic browning in potatoes: a simple assay for a polyphenol oxidase catalysed reaction. J M Busch 171
Emission and absorption spectra and the phenomenon of color vision. M Königsberg 174
A simple experiment illustrating metabolic regulation: induction versus repression of yeast α-glucosidase. B U Stambuk 177

Video review 181
Book reviews 182
Monitor 190

October

Editorial 191
Conference 192
New insights into ATP synthesis. J Nagyvary, J Bechert 193
Learning biochemistry through *manga* — helping students learn and remember, and making lectures more exciting. R Nagata 200

Short communication
Biochemical Education in Iran. J Mohiti, N Mohammadi 204
The natural nature of biomembrane lipids: matches and bilayers. M J Costa 207
What factors are responsible for the greater yield of ATP per carbon atom when fatty acids are completely oxidised to CO_2 and water compared with glucose? I G Darvey 209
Taking notes in seminars — a new improved method. J H Walker 211

Features section
Problem-based learning. C A Smith 214
The role of mutants in metabolic regulation. Srinivasan 215
An introductory student-centred class to teach concepts related to spectrophotometry in a biochemistry practical laboratory course. D B Fialho, J B T Rocha, C F Mello 217
Computer-based learning. G R Parslow 221
Miscellaneous bytes 222
A CAI system for simulation of enzyme kinetics. G G Amorim, F S Leão, M R Martins, J D Santos, M A Novaes, J L L Filho 223
CD-ROM review 225
Biotechnology education. R O Jenkins 226
Bioconversion of waste paper materials to sugars: an application illustrating the environmental benefit of enzymes J P H van Wyk, M A Mogale, K S Moroka 227
A laboratory class experiment to detect and quantify lovastatin in commercial medicaments. W Giordano, C E Domenech 229
An experiment illustrating DNA-protein interactions using nuclear extracts from chicken erythrocytes. B Garat 232
Sex determination using the polymerase chain reaction. A S Weiss, J M Johnston 237
Letter to the editor 240
Book Reviews 241
Monitor 244